FILE 'HOME' ENTERED AT 10:01:57 ON 19 MAR 2003

=> file agricola biosis caplus caba

=> s npr1
L1 449 NPR1

=> s l1 and promoter
L2 72 L1 AND PROMOTER

=> duplicate remove l2
L3 31 DUPLICATE REMOVE L2 (41 DUPLICATES REMOVED)

=> d ti 1-31

L3 ANSWER 1 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Maize **NPR1** polynucleotides and methods of use.

L3 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2003 ACS
TI Angiotensin II-Mediated Negative Regulation of **Npr1** **Promoter** Activity and Gene Transcription

L3 ANSWER 3 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Common variations in noncoding regions of the human natriuretic peptide receptor A gene have quantitative effects.

L3 ANSWER 4 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 1
TI TA repeat variation, **Npr1** expression, and blood pressure: Impact of the Ace locus.

L3 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2003 ACS
TI Promoters isolated from Arabidopsis thaliana defense-associated genes and uses in expression of transgene in plant cells

L3 ANSWER 6 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 2
TI Regulation of the MPG1 hydrophobin gene in the rice blast fungus Magnaporthe grisea.

L3 ANSWER 7 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 3
TI Preexisting systemic acquired resistance suppresses hypersensitive response-associated cell death in Arabidopsis hrl1 mutant.

L3 ANSWER 8 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 4
TI Targets of AtWRKY6 regulation during plant senescence and pathogen defense.

L3 ANSWER 9 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Structure and genomic sequence analysis of murine guanylyl cyclase/atrial natriuretic peptide receptor-A gene.

L3 ANSWER 10 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 5
TI Potentiation of developmentally regulated plant defense response by AtWRKY18, a pathogen-induced Arabidopsis transcription factor.

L3 ANSWER 11 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 6
TI Over-expression of TGA5, which encodes a bZIP transcription factor that interacts with NIM1/**NPR1**, confers SAR-independent resistance in Arabidopsis thaliana to Peronospora parasitica.

L3 ANSWER 12 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 7
TI Genomic structure, organization, and **promoter** region analysis of murine guanylyl cyclase/atrial natriuretic peptide receptor-A gene.

L3 ANSWER 13 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Genomic structure and organization of murine guanylyl cyclase/natriuretic peptide receptor-A gene.

L3 ANSWER 14 OF 31 CABA COPYRIGHT 2003 CABI
TI Regulation of systemic acquired resistance by **NPR1** and its partners
Novartis Foundation Symposium 236.

L3 ANSWER 15 OF 31 AGRICOLA DUPLICATE 8
TI Evidence for an important role of WRKY DNA binding proteins in the regulation of **NPR1** gene expression.

L3 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2003 ACS DUPLICATE 9
TI Genetic dissection of systemic acquired resistance

L3 ANSWER 17 OF 31 AGRICOLA DUPLICATE 10
TI The Arabidopsis aberrant growth and death2 mutant shows resistance to Pseudomonas syringae and reveals a role for **NPR1** in suppressing hypersensitive cell death.

L3 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2003 ACS
TI Regulation of systemic acquired resistance by **NPR1** and its partners

L3 ANSWER 19 OF 31 AGRICOLA DUPLICATE 11
TI Evidence for a disease-resistance pathway in rice similar to the **NPR1**-mediated signaling pathway in Arabidopsis.

L3 ANSWER 20 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI DNA binding proteins that interact with **NPR1**.

L3 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2003 ACS
TI Protein and cDNA sequences of corn **NPR1** gene and uses thereof in plant disease control

L3 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2003 ACS
TI Dna binding proteins that interact with **npr1** for therapeutic protection from plant pathogens

L3 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2003 ACS
TI Protein and cDNA sequences of corn, rice, and wheat **NPR1** genes, chimeric **NPR1** genes, and uses thereof in plant disease control

L3 ANSWER 24 OF 31 AGRICOLA DUPLICATE 12
TI The Arabidopsis **NPR1**/NIM1 protein enhances the DNA binding activity of a subgroup of the TGA family of bZIP transcription factors.

L3 ANSWER 25 OF 31 AGRICOLA DUPLICATE 13
TI **NPR1** differentially interacts with members of the TGA/OBF family of transcription factors that bind an element of the PR-1 gene required for induction by salicylic acid.

L3 ANSWER 26 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 14
TI Dynamic expression of Broad-Complex isoforms mediates temporal control of an ecdysteroid target gene at the onset of Drosophila metamorphosis.

L3 ANSWER 27 OF 31 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.DUPLICATE 15
TI Interaction of **NPR1** with basic leucine zipper protein transcription factors that bind sequences required for salicylic acid induction of the PR-1 gene.

L3 ANSWER 28 OF 31 AGRICOLA DUPLICATE 16
TI The phytochrome response of the Lemna gibba **NPR1** gene is mediated primarily through changes in abscisic acid levels.

L3 ANSWER 29 OF 31 AGRICOLA DUPLICATE 17
TI Characterization of a salicylic acid-insensitive mutant (sai1) of Arabidopsis thaliana, identified in a selective screen utilizing the SA-inducible expression of the tms2 gene.

L3 ANSWER 30 OF 31 AGRICOLA DUPLICATE 18
TI NPR genes, which are negatively regulated by phytochrome action in Lemna gibba L. G-3, can also be positively regulated by abscisic acid.

L3 ANSWER 31 OF 31 AGRICOLA DUPLICATE 19
TI Analysis of genes negatively regulated by phytochrome action in Lemna gibba and identification of a **promoter** region required for phytochrome responsiveness.

=> d bib abs 23 21 18 1915
31 ANSWERS ARE AVAILABLE. SPECIFIED ANSWER NUMBER EXCEEDS ANSWER SET SIZE
The answer numbers requested are not in the answer set.
ENTER ANSWER NUMBER OR RANGE (1):23 21 18 19 15

L3 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2003 ACS
AN 2000:335557 CAPLUS
DN 132:344136
TI Protein and cDNA sequences of corn, rice, and wheat **NPR1** genes, chimeric **NPR1** genes, and uses thereof in plant disease control
IN Famodu, Omolayo O.; Fang, Yiwen; Liu, Zhan-Bin; Miao, Guo-Hua; Odell, Joan T.
PA E.I. du Pont de Nemours and Company, USA
SO PCT Int. Appl., 35 pp.
CODEN: PIXXD2
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000028036	A2	20000518	WO 1999-US25953	19991104
	WO 2000028036	A3	20001109		
	W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2345351	AA	20000518	CA 1999-2345351	19991104
	EP 1124963	A2	20010822	EP 1999-971853	19991104
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	US 6355462	B1	20020312	US 1999-433248	19991104
PRAI	US 1998-107242P	P	19981105		
	WO 1999-US25953	W	19991104		

AB This invention provides protein and cDNA sequences of corn, rice and wheat **NPR1** proteins and genes, which have homol. to Arabidopsis thaliana **NPR1**. The invention also relates to the construction of a chimeric gene encoding all or a portion of the **NPR1** homolog, in sense or antisense orientation, wherein expression of the chimeric gene results in prodn. of altered levels of the **NPR1** in a transformed plant cell. The invention further relates to the use of the **NPR1** for inducing plant disease resistance.

L3 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2003 ACS
AN 2000:772742 CAPLUS
DN 133:330554
TI Protein and cDNA sequences of corn **NPR1** gene and uses thereof in plant disease control
IN Crane, Edmund H., III; Rice, Douglas A.; Simmons, Carl R.; Tossberg, John T.; Sandahl, Gary A.; Zhang, Lingyu
PA Pioneer Hi-Bred International, Inc., USA
SO PCT Int. Appl., 86 pp.
CODEN: PIXXD2
DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000065037	A2	20001102	WO 2000-US10479	20000419
	WO 2000065037	A3	20010726		
	W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	US 6504084	B1	20030107	US 2000-551778	20000418
	EP 1173575	A2	20020123	EP 2000-928204	20000419
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	BR 2000009980	A	20020409	BR 2000-9980	20000419
	US 2002170094	A1	20021114	US 2002-47593	20020115
PRAI	US 1999-130692P	P	19990423		
	WO 2000-US10479	W	20000419		

AB The invention provides protein and cDNA sequences of a novel corn **NPR1** gene. The present invention also provides methods and compns. relating to altering **NPR1** concn. and/or compn. of plants. The invention further provides recombinant expression cassettes, host cells, and transgenic plants. Addnl., the present invention provides **promoter** elements capable of initiating constitutive expression of **NPR1** in a plant. Further, the present invention provides for methods for screening putative activators of a plant resistance pathway.

L3 ANSWER 18 OF 31 CAPLUS COPYRIGHT 2003 ACS
AN 2002:217675 CAPLUS
DN 137:196268
TI Regulation of systemic acquired resistance by **NPR1** and its partners
AU Dong, Xinnian; Li, Xin; Zhang, Yuelin; Fan, Weihua; Kinkema, Mark; Clarke, Joseph
CS DCMB Group, Duke University, Durham, NC, 27708-1000, USA
SO Novartis Foundation Symposium (2001), 236(Rice Biotechnology), 165-175
CODEN: NFSYF7; ISSN: 1528-2511
PB John Wiley & Sons Ltd.
DT Journal
LA English
AB The **NPR1** protein of Arabidopsis thaliana has been shown to be an

important regulatory component of systemic acquired resistance (SAR). Mutations in the **NPR1** gene block the induction of SAR by the signal mol. salicylic acid (SA). **NPR1** contains an ankyrin repeats and a BTB domain which are involved in interaction with other protein(s). To further study the function of **NPR1** and the regulatory mechanism of SAR, we used both mol. and genetic approaches to identify addnl. SAR regulatory components. Through a yeast two-hybrid screen we found that **NPR1** interacts specifically with bZIP transcription factors. The involvement of bZIP transcription factors in controlling the SA-induced genes had been suggested by a no. of **promoter** studies performed on these genes. It was found that as1 element, which is a binding site for bZIP transcription factors, is essential for SA-induced gene expression. In a genetic screen for suppressors of **npr1**, we found a mutant, sni1, that restored the responsiveness to SAR induction in **npr1**. The genetic characteristics of the sni1 mutant and the sequence of SNI1 suggest that the wild-type SNI1 protein is a neg. regulator of SAR. We believe that SAR is controlled by both pos. regulators and neg. regulators.

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 19 OF 31 AGRICOLA DUPLICATE 11
AN 2001:83320 AGRICOLA
DN IND23239381
TI Evidence for a disease-resistance pathway in rice similar to the **NPR1**-mediated signaling pathway in Arabidopsis.
AU Chern, M.S.; Fitzgerald, H.A.; Yadav, R.C.; Canlas, P.E.; Dong, X.; Ronald, P.C.
AV DNAL (QK710.P68)
SO The Plant journal : for cell and molecular biology, July 2001. Vol. 27, No. 2. p. 101-113
Publisher: Oxford : Blackwell Sciences Ltd.
ISSN: 0960-7412
NTE Includes references
CY England; United Kingdom
DT Article
FS Non-U.S. Imprint other than FAO
LA English
AB The Arabidopsis **NPR1**/NIM1 gene is a key regulator of systemic acquired resistance (SAR). Over-expression of **NPR1** leads to enhanced resistance in Arabidopsis. To investigate the role of **NPR1** in monocots, we over-expressed the Arabidopsis **NPR1** in rice and challenged the transgenic plants with Xanthomonas oryzae pv. oryzae (Xoo), the rice bacterial blight pathogen. The transgenic plants displayed enhanced resistance to Xoo. RNA blot hybridization indicates that enhanced resistance requires expression of **NPR1** mRNA above a threshold level in rice. To identify components mediating the resistance controlled by **NPR1**, we used **NPR1** as bait in a yeast two-hybrid screen. We isolated four cDNA clones encoding rice **NPR1** interactors (named rTGA2.1, rTGA2.2, rTGA2.3 and rLG2) belonging to the bZIP family. rTGA2.1, rTGA2.2 and rTGA2.3 share 75, 76 and 78% identity with Arabidopsis TGA2, respectively. In contrast, rLG2 shares highest identity (81%) to the maize liguleless (LG2) gene product, which is involved in establishing the leaf blade-sheath boundary. The interaction of **NPR1** with the rice bZIP proteins in yeast was impaired by the **npr1**-1 and **npr1**-2 mutations, but not by the nim1-4 mutation. The **NPR1**-rTGA2.1 interaction was confirmed by an in vitro pull-down experiment. In gel mobility shift assays, rTGA2.1 binds to the rice RCH10 **promoter** and to a cis-element required sequence-specifically for salicylic acid responsiveness. This is the first demonstration that the Arabidopsis **NPR1** gene can enhance disease resistance in a monocot plant. These results also suggest that monocot and dicot plants share a conserved signal transduction pathway controlling **NPR1**-mediated resistance.

L3 ANSWER 15 OF 31 AGRICOLA DUPLICATE 8
AN 2002:20955 AGRICOLA
DN IND23258811
TI Evidence for an important role of WRKY DNA binding proteins in the regulation of **NPR1** gene expression.
AU Yu, D.; Chen, C.; Chen, Z.
AV DNAL (QK725.P532)
SO The Plant cell, July 2001. Vol. 13, No. 7. p. 1527-1539
Publisher: [Rockville, MD : American Society of Plant Physiologists, c1989-
CODEN: PLCEEW; ISSN: 1040-4651
NTE Includes references
CY Maryland; United States
DT Article
FS U.S. Imprints not USDA, Experiment or Extension
LA English
AB The Arabidopsis **NPR1** gene is a positive regulator of inducible plant disease resistance. Expression of **NPR1** is induced by pathogen infection or treatment with defense-inducing compounds such as salicylic acid (SA). Transgenic plants overexpressing **NPR1**

exhibit enhanced resistance to broad spectrum of microbial pathogens, whereas plants under-expressing the gene are more susceptible to pathogen infection. These results suggest that regulation of **NPR1** gene expression is important for the activation of plant defense response. In the present study, we report the identification of W-box sequences in the **promoter** region of the **NPR1** gene that are recognized specifically by SA-induced WRKY DNA binding proteins from Arabidopsis. Mutations in these W-box sequences abolished their recognition by WRKY DNA binding proteins, rendered the **promoter** unable to activate a downstream reporter gene, and compromised the ability of **NPR1** to complement **npr1** mutants for SA-induced defense gene expression and disease resistance. These results provide strong evidence that certain WRKY genes act upstream of **NPR1** and positively regulate its expression during the activation of plant defense responses. Consistent with this model, we found that SA-induced expression of a number of WRKY genes was independent of **NPR1**.

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STN INTERNATIONAL SESSION SUSPENDED AT 10:05:32 ON 19 MAR 2003